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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/691,424	10/22/2003	Michael S. Kaplan	M61.12-0988	6179
27366 7590 05/04/2007 WESTMAN CHAMPLIN (MICROSOFT CORPORATION) SUITE 1400 900 SECOND AVENUE SOUTH MINNEAPOLIS, MN 55402-3319			EXAMINER COLUCCI, MICHAEL C	
			ART UNIT 2609	PAPER NUMBER
			MAIL DATE 05/04/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/691,424

Applicant(s)

KAPLAN ET AL.

Examiner

Michael C. Colucci

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 17 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 17, line 1, "*instructions for storing a search weight for the matching compression*" has no antecedent basis. "*Search weight*" is not disclosed within the specification or within any previous claims. For the purpose of art rejection, "*search weight*" is read as "*sort weight*".

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 1, 6, 11, 12, 16, 18, 23, 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Lisle et al US 4,843,389.

Re claims 1, 6, 11 and 18, Lisle et al discloses a processor based system for carrying out a method of performing a linguistic sorting operation (fig. 1). The

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method is effectuated by an inherent computer program (figs. 3, 4A-4G, i.e. "logic flow" and/or "flow chart" practiced by the processor), comprising:

receiving an input string containing a plurality of linguistic symbols used in a given language;

(Lisle et al discloses a text compression method where a collation order is implemented using a hierarchal sorting collation with the ability to define input as a symbol, sequence, letter, digit, etc. Col 15 line 45-63 and [Col. 20 line 67-68 - Col. 21 line 1-3])

for a first symbol in a combination of symbols in the input string, obtaining a highest compression type for compressions beginning with said first symbol;

(Lisle et al discloses the use of a compression ratio (representative of the fractional size of the original to compressed data) that is synonymous to compression type as claimed (See abstract line 1).)

performing a binary search through each of a plurality of compression tables containing compressions for the given language to find a matching compression that matches a combination of said first symbol and adjacent symbols in the input string, wherein the plurality of compression tables are searched in a descending order of compression types of the compression tables starting with a compression table having a compression type equal to said highest compression type for said first symbol.

(Lisle et al disclose the method of using a binary search technique to speed dictionary search time. Lisle et al discloses that a compression table is a type of dictionary. Therefore the binary search technique is applied to both a

compression table and dictionary (Col. 6 line 5-8). Lisle et al disclose that through the use of multiple dictionaries in combination with entries selected on the basis of weighted frequency of use, compression ratios as high as eight to one can be routinely achieved. (Col. 3 line 24-31 and Col.3 line 34-39))

Re claims 12 and 24, which further recite “wherein the compressions in each of the compression tables are sorted according to code points for symbols forming the compressions, and wherein the binary search through each compression table is based on the code points for symbols forming the compressions in said each compression table”, *generally, code points are another way to define the index or location within a table, particularly an encoded table. It is inherent that either by pointing or directly referencing data, the index will be utilized when a search through a table is performed. Therefore a code point will be taken to mean a location in memory within a table (index) (Col. 3 line 58-62 and Fig. 2).*

Re claims 16 and 23, which further recites “where in the step of performing a binary search thorough each of the compression tables includes calling a search module to perform a binary search in each of the compression tables”, *a module is defined as a program used to perform set of instructions. Therefore in light of the specification, there is no further limitation by referring to the part of the program that executes a binary search as a module (See analysis for claims 1 and 18).*

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 2, 5, 7, 10, 15, 17, 19, 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Lisle et al* as applied to claims 1, 6, 11 and 18 above respectively, and further in view of Ho 7,130,470 B1.

Re claims 17 and 19, *Lisle et al* discloses a dictionary that contains a compression table as well as symbols stored for indexing within a control table (Fig. 2). However *Lisle et al* fails to disclose the identification of a symbol with the use of a sort weight at an index or code point. When read in light of the specification, a sort weight is described in one implementation to be a masked 32 bit value with every four bits pertaining to a classification for sorting. However, claim 19 does not limit the type of sort weight, therefore one can assume that a generic sort weight can be implemented. Ho teaches the assignment of a numerical value of an integer pertaining to a symbol (Col. 1 line 60 – Col. 2 line 4). Therefore, the combined teaching of *Lisle et al* and Ho would have rendered obvious use of a method where an indexed symbol is uniquely identified by a sort weight.

Re claim 22, as applied to claim 19 above, Ho clearly discloses that the present invention involves symbols comprised of Unicode characters (Col. 2 lines

58-59). Therefore, the combined teaching of Lisle et al and Ho would have rendered obvious the use of a Unicode standard for the assignment of symbols.

Claim 2 is closely related to claim 22 but is not further substantially limited. Therefore claim 2 has been analyzed and rejected with the same arguments presented in claim 22. (See analysis for claim 22)

Claim 7 has been analyzed and rejected with respect to claim 2.

Claim 5 is closely related to claim 19 but is not further substantially limited. Therefore claim 5 has been analyzed and rejected with the same arguments presented in claim 19. (See analysis for claim 19)

Claim 10 has been analyzed and rejected with respect to claim 5.

Claim 15 is closely related to claim 22 but is not further substantially limited. Therefore claim 15 has been analyzed and rejected with the same arguments presented in claim 22. (See analysis for claim 22)

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 3, 4, 8, 9, 13, 14, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Lisle et al and Ho* as applied to claims 1, 6, 12, and 19 above respectively, and further in view of Edberg 5,873,111 A.

Re claim 20, Lisle et al disclose a method where compression types (ratio's) are sorted by the highest compression type per symbol. Ho discloses a method where numerical values are assigned as part of a sort weight for a symbol to identify a particular symbol. The combined teaching of Lisle et al and Ho as a whole fails to specifically disclose the method of "tagging" a symbol. However, when read in light of the specification, it is revealed that a tag is a portion of the sort weight. Without further limitation within the claim language, a tag will be taken to be a part of the sort weight.

Edberg discloses a method of tagging character attributes with a prefix tag with the purpose of accessing collation tables to retrieve collation order. Therefore, the combined teaching of Lisle et al, Ho, and Edberg as a whole would have rendered obvious the method of sorting compression types (ratios) according to sort weights within a table where each index within the table contains an element that is tagged (identified by a prefix numerical value in the sort weight) Col. 12 line 7-12 and Col. 19 line 54-59.

Re claim 21, the tag at index within a table is taken to be a part of the sort weight. See analysis for claim 20.

Claim 3 is closely related to claim 20 but is not further substantially limited. Therefore claim 3 has been analyzed and rejected with the same arguments presented in claim 20. (See analysis for claims 20)

Claim 8 has been analyzed and rejected with respect to claim 3.

Claim 4 is closely related to claim 21 but is not further substantially limited. Therefore claim 4 has been analyzed and rejected with the same arguments presented in claim 21. (See analysis for claims 21)

Claim 9 has been analyzed and rejected with respect to claim 4.

Claim 13 is closely related to claim 20 but is not further substantially limited. Therefore claim 13 has been analyzed and rejected with the same arguments presented in claim 20. (See analysis for claim 20)

Claim 14 is closely related to claim 21 but is not further substantially limited. Therefore claim 14 has been analyzed and rejected with the same arguments presented in claim 21. (See analysis for claim 21)

Examiner's Note

The referenced citations made in the rejection(s) above are intended to exemplify areas in the prior art document(s) in which the examiner believed are the most relevant to the claimed subject matter. However, it is incumbent upon the applicant to analyze the prior art document(s) in its/their entirety since other areas of the document(s) may be relied upon at a later time to substantiate examiner's rationale of record. A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. W.L. Gore & associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984). However, "the prior art's mere disclosure of more than one alternative does not constitute a teaching away from any of these alternatives because such disclosure does not

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criticize, discredit, or otherwise discourage the solution claimed...." In re Fulton, 391 F.3d 1195, 1201, 73 USPQ2d 1141, 1146 (Fed. Cir. 2004).

Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Colucci whose telephone number is (571)272-1847. The examiner can normally be reached on 7:30 am - 5:00 pm , alt. Fridays. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vu Le can be reached on (571)-272-7332. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Michael C. Colucci



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SUPERVISORY PATENT EXAMINER